SEQUENCE LISTING

<110> Aventis Pasteur Limited Brunham, Robert Raudonikiene, Ausra Gallichan, Scott Murdin, Andrew Immunization Against Chlamydia Infectio with 60K CRMP <120> <130> RY185 <150> US 60/481,676 2003-11-20 <151> <160> 14 <170> PatentIn version 3..3 <210> 1 <211> 1662 <212> DNA <213> Chlamydia muridium <220> <221> CDS <222> (1)..(1662) 48 atg cga ata gga gat cct atg aac aaa ctc atc aga cga gct gtg acg Met Arg Ile Gly Asp Pro Met Asn Lys Leu Ile Arg Arg Ala Val Thr atc ttc gcg gtg act agt gtg gcg agt tta ttt gct agc ggg gtg tta 96 Ile Phe Ala Val Thr Ser Val Ala Ser Leu Phe Ala Ser Gly Val Leu gag acc tot atg goa gag tot oto tot acc aac gtt att agc tta got 144 Glu Thr Ser Met Ala Glu Ser Leu Ser Thr Asn Val Ile Ser Leu Ala 40 gac acc aaa gcg aaa gag acc act tct cat caa aaa gac aga aaa gca 192 Asp Thr Lys Ala Lys Glu Thr Thr Ser His Gln Lys Asp Arg Lys Ala 55 aga aaa aat cat caa aat agg act tcc gta gtc cgt aaa gag gtt act 240 Arg Lys Asn His Gln Asn Arg Thr Ser Val Val Arg Lys Glu Val Thr gca gtt cgt gat act aaa gct gta gag cct aga cag gat tct tgc ttt 288 Ala Val Arg Asp Thr Lys Ala Val Glu Pro Arg Gln Asp Ser Cys Phe ggc aaa atg tat aca gtc aaa gtt aat gat gat cgt aat gta gaa atc 336 Gly Lys Met Tyr Thr Val Lys Val Asn Asp Asp Arg Asn Val Glu Ile

			100		-			105				ī	110				
gtg Val	cag Gln	tcc Ser 115	gtt Val	cct Pro	gaa Glu	tat Tyr	gct Ala 120	acg Thr	gta Val	gga Gly	tct Ser	cca Pró 125	tat Tyr	cct Pro	att Ile		384
gag Glu	att Ile 130	act Thr	gct Ala	ata Ile	gly aaa	aaa Lys 135	aga Arg	gac Asp	tgt Cys	gtt Val	gat Asp 140	gta Val	atc Ile	att Ile	aca Thr		432
cag Gln 145	caa Gln	tta Leu	cca Pro	tgc Cys	gaa Glu 150	gca Ala	gag Glu	ttt Phe	gtt Val	agc Ser 155	agt Ser	gat Asp	cca Pro	gct Ala	act Thr 160		480
act Thr	cct. Pro	act Thr	gct Ala	gat Asp 165	ggt Gly	aag Lys	cta Leu	gtt Val	tgg Trp 170	aaa Lys	att Ile	gat Asp	cgg Arg	tta Leu 175	gga Gly		528
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ggt Gly	tgc Cys	tgc Cys 195	ttt Phe	aca Thr	gct Ala	gca Ala	acg Thr 200	gtt Val	tgt Cys	gct Ala	tgt Cys	cca Pro 205	gag Glu	atc Ile	cgt Arg	• •	624
tcg Ser	gtt Val 210	acg	aaa Lys	tgt Cys	ggc	cag Gln 215	cct Pro	gct Ala	atc Ile	tgt Cys	gtt Val 220	aaa Lys	cag Gln	gaa Glụ	ggt Gly		672
cca Pro 225	gaa Glu	agc Ser	gca Ala	tgt Cys	ttg Leu 230	cgt [.] Arg	tgc Cys	cca Pro	gta Val	act Thr 235	tat Tyr	aga Arg	att Ile	aat Asn	gta Val 240		720
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tac Tyr 305	Cys	ggt Gly	gga Gly	cac His	aaa Lys 310	Asn	act Thr	gct Ala	agc Ser	gta Val 315	Thr	aca Thr	gtg Val	atc Ile	aat Asn 320		960
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tgt Cys	aag Lys	cct Pro	gta Val 340	gaa Glu	tat Tyr	gtt Val	atc Ile	tct Ser 345	gtt Val	tct Ser	aac Asn	cct Pro	ggt Gly 350	gac Asp	tta Leu	1056
					gta Val											1104
					gga Gly											1152
					aat Asn 390											1200
Val	Arg	Ala	Gln	Thr 405	cca Pro	Gly	Gln	Phe	Thr 410	Asn	Asn	Val	Val	Val 415	Lys	1248
Ser	Cys	Ser	Asp 420	Cys	ggt Gly	Ile	Cys	Thr 425	Ser	Сув	Ala	Glu	Ala 430	Thr	Thr	1296
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Asn 465	Arg	Gly	Ser	Ala	gaa Glu 470	qaA	Thr	Asn	Val	Ser 475	Leu	Ile	Leu	ГÀЗ	Phe 480	1440
Ser	. Lys	Glu	Leu	Gln 485	cct Pro	Ile	Ser	Phe	Ser 490	Gly	Pro	Thr	Lys	Gly 495	Thr	1488
Ile	Thr	Gly	Asn 500	Thr	gta Val	Val	Phe	Asp 505	Ser	Leu	Pro	Arg	Leu 510	Gly	Ser	1536
Lys	Glu	Thr 515	Val	Glu		Ser	Val 520	Thr	Leu	Lys	Āla	Val. 525	Ser	Āla	Gly	1584
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<212> PRT <213> Chlamydia muridium

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Glu Thr Ser Met Ala Glu Ser Leu Ser Thr Asn Val Ile Ser Leu Ala 35 40 45

Asp Thr Lys Ala Lys Glu Thr Thr Ser His Gln Lys Asp Arg Lys Ala 50 60

Arg Lys Asn His Gln Asn Arg Thr Ser Val Val Arg Lys Glu Val Thr 65 70 75 80

Ala Val Arg Asp Thr Lys Ala Val Glu Pro Arg Gln Asp Ser Cys Phe 85 90 95

Gly Lys Met Tyr Thr Val Lys Val Asn Asp Asp Arg Asn Val Glu Ile 100 105 110

Val Gln Ser Val Pro Glu Tyr Ala Thr Val Gly Ser Pro Tyr Pro Ile 115 120 125

Glu Ile Thr Ala Ile Gly Lys Arg Asp Cys Val Asp Val Ile Ile Thr 130 135 140

Gln Gln Leu Pro Cys Glu Ala Cla Dhe Vol Com Ser Asp Pro Ala Thr 145 150 155 160

Thr Pro Thr Ala Asp Gly Lys Leu Val Trp Lys Ile Asp Arg Leu Gly 165 170 175

Gln Gly Glu Lys Ser Lys Ile Thr Val Trp Val Lys Pro Leu Lys Glu 180 185 190

Gly Cys Cys Phe Thr Ala Ala Thr Val Cys Ala Cys Pro Glu Ile Arg

Ser Val Thr Lys Cys Gly Gln Pro Ala Ile Cys Val Lys Gln Glu Gly Pro Glu Ser Ala Cys Leu Arg Cys Pro Val Thr Tyr Arg Ile Asn Val Val Asn Gln Gly Thr Ala Thr Ala Arg Asn Val Val Glu Asn Pro Val Pro Asp Gly Tyr Ala His Ala Ser Gly Gln Arg Val Leu Thr Tyr Thr Leu Gly Asp Met Gln Pro Gly Glu Gln Arg Thr Ile Thr Val Glu Phe Cys Pro Leu Lys Arg Gly Arg Val Thr Asn Ile Ala Thr Val Ser Tyr Cys Gly Gly His Lys Asn Thr Ala Ser Val Thr Thr Val Ile Asn Glu Pro Cys Val Gln Val Asn Ile Glu Gly Ala Asp Trp Ser Tyr Val Cys Lys Pro Val Glu Tyr Val Ile Ser Val Ser Asn Pro Gly Asp Leu Val Leu Arg Asp Val Val Ile Glu Asp Thr Leu Ser Pro Gly Ile Thr Val Val Glu Ala Ala Gly Ala Gln Ile Ser Cys Asn Lys Leu Val Trp Thr Leu Lys Glu Leu Asn Pro Gly Glu Ser Leu Gln Tyr Lys Val Leu Val Arg Ala Gln Thr Pro Gly Gln Phe Thr Asn Asn Val Val Lys Ser Cys Ser Asp Cys Gly Ile Cys Thr Ser Cys Ala Glu Ala Thr Thr

Tyr Trp Lys Gly Val Ala Ala Thr His Met Cys Val Val Asp Thr Cys 435 Asp Pro Ile Cys Val Gly Glu Asn Thr Val Tyr Arg Ile Cys Val Thr 455 450 Asn Arg Gly Ser Ala Glu Asp Thr Asn Val Ser Leu Ile Leu Lys Phe 475 470 Ser Lys Glu Leu Gln Pro Ile Ser Phe Ser Gly Pro Thr Lys Gly Thr 490 485 Ile Thr Gly Asn Thr Val Val Phe Asp Ser Leu Pro Arg Leu Gly Ser 505 500 Lys Glu Thr Val Glu Phe Ser Val Thr Leu Lys Ala Val Ser Ala Gly 525 515 520 Asp Ala Arg Gly Glu Ala Ile Leu Ser Ser Asp Thr Leu Thr Val Pro , 530 535 540 . Val Ser Asp Thr Glu Asn Thr His Ile Tyr 545 <210> 3 <211> 1659 <212> DNA <213> Chlamydia trachomatis <220> <221> CDS <222> (1)..(1659) <400> 3 atg cga ata gga gat cct atg aac aaa ctc atc aga cga gca gtg acg 48 Met Arg Ile Gly Asp Pro Met Asn Lys Leu Ile Arg Arg Ala Val Thr 5 atc ttc gcg gtg act agt gtg gcg agt tta ttt gct agc ggg gtg tta 96 Ile Phe Ala Val Thr Ser Val Ala Ser Leu Phe Ala Ser Gly Val Leu 20 144 gag acc tct atg gca gag tct ctc tct aca aac gtt att agc tta gct Glu Thr Ser Met Ala Glu Ser Leu Ser Thr Asn Val Ile Ser Leu Ala 35

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					gag Glu 70										ccg Pro 80		240
					gct Ala												288
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					tat Tyr												384
		-			aaa Lys			_	_	_	_				_		432
					gca Ala 150												480
					aag Lys												528
					att Ile												576
					gca Ala											,	624
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_					cgt Arg 230				-								720
				_	aca Thr	_	_		_	_	_	_			_	. •	768
		_		_	cat His					_		_	_				816
ctt.	gga	gat	atg	caa	cct	gga	gag	cac	aga	aca	att	act	gta	gag	ttt		864

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tgt Cys 305	gga Gly	gga Gly	cat His	aaa Lys	aat Asn 310	aca Thr	gca Ala	agc Ser	gta Val	aca Thr 315	act Thr	gtg Val	atc Ile	aac Asn	gag Glu 320	960
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cct Pro	gtt Val 450	Cys	gta Val	gga Gly	gaa Glu	aat Asn 455	act Thr	gtt Val	tac Tyr	cgt Arg	att Ile 460	tgt Cys	gtc Val	acc Thr	aac Asn	1392
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Сув	Суз	Phe 195	Thr	Ala	Ala	Thr	Val 200	Cys	Ala	Сув	Pro	Glu 205	Ile	Arg	Ser
Val	Thr 210	ГÀв	Cys	Gly 	Gln	Pro 215	Ala	Ile	Сув	Val	Lys 220		Glu	Gly	Pro
Glu 225	Asn	Ala	Cys	Leu	Arg 230	Сув	Pro	Val	Val	Tyr 235	Lys	Ile	Asn	Ile	Val 240
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Pro	Сув	Val	Gln	Val 325	Ser	Ile	Ala	Gly	Ala 330	Asp	Trp	Ser	Tyr	Val 335	Сув
Lys	Pro	Val	Glu 340	Tyr	Val	Ile	Ser	Val 345	Ser	Asn	Pro	Gly	Asp 350	Leu	Val
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<211> 1554

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<220>

<221> CDS

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	1	OLU	DCI	Dou	5					10					15		
					_		-	_	_	_					•	**! -	
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		1		100	x -	- 4		_	105					110			
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Tyr 225	Ala	His	Ala	Ser	Gly 230	Gln	Arg	Val	Leu	Thr 235	Tyr	Thr	Leu	Gly	Asp 240
Met	Gln	Pro	Gly	Glu 245	Gln	Arg	Thr	Ile	Thr 250	Val	Glu	.Phe	Сув	Pro 255	
Lys	Arg	Gly	Arg 260	Val	Thr	Asn	Ile	Ala 265	Thr	Val	Ser.	Tyr	Cys 270	Gly	Gly
His	Lys	Asn 275	Thr	Ala	Ser	Val	Thr 280	Thr	Val	Ile	Asn	Glu 285	Pro	Сув	Val
Gln	Val 290	Asn	·Ile	Glu	Gly	Ala 295	Asp	Trp	Ser	Tyr	Val	Сув	Lys	Pro	Val
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Val	Val	Ile	Glu	Asp 325	Thr	Leu	Ser	Pro ·	Gly 330	Ile	Thr	Val	Val	Glu 335	Ala
Ala	Gly	Ala	Gln 340	Ile	Ser	Cys	Asn	Lys 345	Leu	Val	Trp	Thr	Leu 350	Lys	Glu

Leu Asn Pro Gly Glu Ser Leu Gln Tyr Lys Val Leu Val Arg Ala Gln 360 355 Thr Pro Gly Gln Phe Thr Asn Asn Val Val Lys Ser Cys Ser Asp 375 370 Cys Gly Ile Cys Thr Ser Cys Ala Glu Ala Thr Thr Tyr Trp Lys Gly 395 400 385 390 Val Ala Ala Thr His Met Cys Val Val Asp Thr Cys Asp Pro Ile Cys 405 410 Val Gly Glu Asn Thr Val Tyr Arg Ile Cys Val Thr Asn Arg Gly Ser 425 430 Ala Glu Asp Thr Asn Val Ser Leu Ile Leu Lys Phe Ser Lys Glu Leu 435 440 445 Gln Pro Ile Ser Phe Ser Gly Pro Thr Lys Gly Thr Ile Thr Gly Asn 450 455 460 Thr Val Val Phe Asp Ser Leu Pro Arg Leu Gly Ser Lys Glu Thr Val 480 470 475 Glu Phe Ser Val Thr Leu Lys Ala Val Ser Ala Gly Asp Ala Arg Gly Glu Ala Ile Leu Ser Ser Asp Thr Leu Thr Val Pro Val Ser Asp Thr 500 505 Glu Asn Thr His Ile Tyr <210> 7 <211> 1551 <212> DNA <213> Chlamydia trachomatis <220> <221> CDS <222> (1)..(1551) <400> 7

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	gac Asp															96
	gag Glu															144
	gct Ala 50															192
_	aaa Lys	_		_	_	_		_	_				_	-		. 240
_	tat Tyr	_	_	_							-			-		288
	aaa Lys															336
	gca Ala															384
	aag Lys 130															432
	att Ile															480
	gca Ala															528
gga Gly	caa Gln	cct Pro	gct Ala 180	atc Ile	tgt Cys	gtt Val	aaa Lys	caa Gln 185	gaa Glu	Gly	C c a Pro	gag Glu	aat Asn 190	gct Ala	tgt Cys	576
	cgt Arg															624
	aca Thr 210															672
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gct Ala	gct Ala	act Thr	cat His	atg Met 405	Cys	gta Val	gta Val	gat Asp	act Thr 410	Cys	gac Asp	cct Pro	gtt Val	tgt Cys 415	gta Val		1248
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			aca Thr														1488
gcg Ala	att Ile	ctt Leu	tct Ser 500	tcc Ser	gat Asp	aca Thr	ttg Leu	act Thr 505	gtt Val	cca Pro	gtt Val	tct Ser	gat Asp 510	aca Thr	gag Glu	-	1536.
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Gly	ŗys	Arg	Asp 100	Сув	Val	Asp	Val	Ile 105	Ile	Thr	Gln	Gln	Leu 110	Pro	Сув	•	
Glu	Ala	Glu 115	Phe	Val	Arg	Ser	Asp `120	Pro	Ala	Thr	Thr	Pro 125	Thr	`Ala	Asp		

Gly Lys Leu Val Trp Lys Ile Asp Arg Leu Gly Gln Gly Glu Lys Ser 130 135 140

Lys Ile Thr Val Trp Val Lys Pro Leu Lys Glu Gly Cys Cys Phe Thr 145 150 155 160

Ala Ala Thr Val Cys Ala Cys Pro Glu Ile Arg Ser Val Thr Lys Cys
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Leu Arg Cys Pro Val Val Tyr Lys Ile Asn Ile Val Asn Gln Gly Thr
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Ala His Ser Ser Gly Gln Arg Val Leu Thr Phe Thr Leu Gly Asp Met 225 230 235 240

Gln Pro Gly Glu His Arg Thr Ile Thr Val Glu Phe Cys Pro Leu Lys 245 250 255

Arg Gly Arg Ala Thr Asn Ile Ala Thr Val Ser Tyr Cys Gly Gly His 260 265 270

Lys Asn Thr Ala Ser Val Thr Thr Val Ile Asn Glu Pro Cys Val Gln 275 280 285

Val Ser Ile Ala Gly Ala Asp Trp Ser Tyr Val Cys Lys Pro Val Glu 290 295 300

Tyr Val Ile Ser Val Ser Asn Pro Gly Asp Leu Val Leu Arg Asp Val 305 310 315 320

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Phe	Ser	· Val	Thr	Leu 485		Ala	Val	. Ser	Ala 490		Asp) Ala	Arg	Gly 495	Glu		
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